

**REMARKS**

Claims 1, 3-5, 7, 8 and 11-12 are pending. The Office Action rejects claims 1-10. By this Amendment, claims 1, 3, 7 and 8 are amended, claims 2, 6, 9 and 10 are canceled and claims 11-12 are added. Support for the new and amended claims can be found in the specification and in the original claims as filed. Thus, no new matter is added. In view of the amendments and the following remarks, reconsideration and allowance are respectfully requested.

**I. Claim Rejection Under §102****A. Lampert**

The Office Action rejects claims 1, 5 and 7 under 35 U.S.C. §102(b) over U.S. Patent No. 6,074,973 to Lampert et al. (hereinafter "Lampert"). Applicants respectfully traverse the rejection.

Applicants herein amend claim 1 to incorporate the features of non-rejected dependent claim 2. Accordingly, the rejection is overcome and must be withdrawn. Applicants respectfully request reconsideration and withdrawal of this rejection.

**B. Yamamoto**

Claims 3-4 and 9 are rejected under 35 U.S.C. §102(b) over U.S. Patent No. 6,047,544 to Yamamoto et al. (hereinafter "Yamamoto"). Applicants respectfully traverse this rejection.

Amended claim 3 is directed to a catalyst for purifying exhaust gases that features an HC-adsorbent layer comprising zeolite formed on a surface of said substrate, wherein the zeolite consists of  $\beta$ -type zeolite, and a lower catalyst layer that includes only Pd and excluding all other noble metals. Support for amended claim 3 can be found in the specification at least at pages 26-27, Embodiment 10, and in Fig. 3 and Table 2. Yamamoto does not teach such an exhaust catalyst.

Yamamoto primarily describes a catalyst having an HC-adsorbent layer comprising a mixture of  $\beta$ -zeolite and at least a second zeolite type, such as MFI type, Y type, USY type, A

type, and X type, or  $\text{AlPO}_4$ , SAPO, mordenite and ferrierite. (see, col. 6, lines 46-49 and Samples 1-21, 28, 30 and 32). Yamamoto discloses that by selectively combining various zeolites having different pore distributions with  $\beta$  zeolite. "a composition ratio having a desirable HC adsorption ability is obtained." (See, col. 6, lines 50-54). Yamamoto also discloses that the hydrocarbon adsorption performance at low temperatures is improved by including 5-45 weight % of mordenite, Y type zeolite, USY type zeolite and MFI type zeolite in the HC-adsorbent layer. Less than 5%, and the pore diameter distribution is inadequate (see, col. 8, lines 58-64). In this instance, Yamamoto teaches a combination of  $\beta$  zeolite and other zeolites. Yamamoto does not teach an HC-adsorbent layer "wherein the zeolite consists of  $\beta$ -type zeolite" as featured in claim 3.

Yamamoto does appear to illustrate a few examples of a catalyst that includes a layer of 100 percent  $\beta$  zeolite (Samples 22-24, 27, 29, 31). However, in each of these examples, Yamamoto does not use a lower catalyst layer composed of "a porous carrier carrying only Pd and excluding all other noble metals," as claimed. Thus, nowhere does Yamamoto teach a catalyst having each and every element of the catalyst of claim 3.

Yamamoto fails to teach a catalyst that includes an HC-adsorbent layer comprising zeolite, wherein the zeolite consists of  $\beta$ -type zeolite, and a lower catalyst layer composed of a porous carrier carrying only Pd and excluding all other noble metals as claimed in claim 3. For at least these reasons alone, Yamamoto does not teach, and can not anticipate claim 3, and claims 4 and 9 dependent thereon.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection.

**II. Claim Rejection Under §103**

**A. Mussman**

The Office Action rejects claims 1, 2 and 5-8 under 35 U.S.C. §103(a) over U.S. Patent No. 6,080,375 to Mussman et al. (hereinafter "Mussman"). Applicants respectfully traverse the rejection.

Claim 1 is directed to a catalyst for purifying exhaust gases that includes an HC-adsorbent layer that includes no noble metal. Mussman does not teach or suggest such a catalyst.

Mussman describes a catalyst that includes two superposed functional layers comprising a mixture of catalyst (platinum) and zeolite. Mussman recites that its functional layer "is mixed with a catalyst." (Col. 3, lines 53-55.) Mussman also teaches that at least palladium and rhodium are contained separately in the functional layers. (Col. 3, lines 33-35.) Both functional layers in Mussman include at least a noble metal. Thus, Mussman does not teach or suggest an HC-adsorbent layer that "includes no noble metal" as stated in claim 1.

For at least these reasons, Mussman would not have taught or suggested, and would not have rendered obvious to one of ordinary skill in the art, the catalyst of claim 1. Claims 5, 7 and 8 depend from claim 1 and would also have not been rendered obvious. Claims 2 and 6 are canceled. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection.

**B. Mussman and Yamamoto**

The Office Action rejects claim 10 under 35 U.S.C. §103(a) over Mussman in view of Yamamoto. Claim 8 now contains the features of canceled claim 10; claim 8 depends from claim 1.

As detailed in the above remarks, Mussman does not teach or suggest, and would not have rendered obvious, the claimed catalyst. In particular, Mussman does not teach or

suggest an HC-adsorbent layer that "includes no noble metal," as recited in claim 1. In addition, Yamamoto does not remedy the deficiencies in the Mussman disclosure. Moreover, the Office Action does not even cite Yamamoto for teaching this claim feature. For this reason alone, Mussman and Yamamoto, alone or in combination would not have taught or suggested, or rendered obvious to one of ordinary skill in the art, the catalyst of claim 1 and claim 8 dependent thereon.

### **III. Conclusion**

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1, 3-5, 7, 8 and 11-12 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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